

## LABORATORIES

\* Inactive Laboratories.

<sup>1</sup> The H<sup>3</sup>—Laboratorium of this institute (directed by Klaus Fröhlich) should be addressed separately.

<sup>1a</sup> Lists from this laboratory have not been submitted to RADIOCARBON. See Gdansk I, Acta Physica Polonica, vol. 22, p. 189, 1962; Gdansk II, *ibid.*, vol. 32, p. 39, 1967.

<sup>2</sup> This designation Gif supersedes both Sa (Saclay) and Gsy (Gif-sur-Yvette). The only Gsy date list to be published is Gsy I (Coursaget and Le Run, RADIOCARBON, v. 8).

<sup>3</sup> From January 1, 1961 the Gro numbers have been replaced by GrN numbers. "New" dates are referred to the NBS oxalic-acid standard.

<sup>4</sup> Early dates from this laboratory were given a code designation that represents the name of the sponsoring institution, e.g. I ((AGS) for American Geographical Society (Heusser, RADIOCARBON SUPPLEMENT, v. 1).

<sup>5</sup> Formerly Hazelton Nuclear: code designation HNS has been dropped.

<sup>6</sup> Some dates from this laboratory were published with the code designation S (Pringle and others, 1957, Science, v. 125, p. 69-70).

<sup>7</sup> See SM.

<sup>8</sup> See Gif.

<sup>9</sup> Some dates from this laboratory have been published with the code designation RC (Flint and Gale, 1958, AM. JOUR. SCI., v. 256, p. 698-714). The code designation MP published in volume 1 of the RADIOCARBON SUPPLEMENT (1959, p. 216) has been changed to SM in conformity with the wishes of the laboratory, and is explained by the change of the company's name from Magnolia Petroleum Company to Socony Mobil Oil Company, Inc.

<sup>10</sup> Formerly Texas-Bio-Nuclear, then Kaman Instruments. The laboratory is no longer operating.

### A ARIZONA

Dr. Austin Long  
Laboratory of Isotope Geochemistry  
Geochronology Department  
University of Arizona  
Tucson, Arizona 85721

### AERIK ATOMIC ENERGY RESEARCH INSTITUTE

Mr. Kyung Rin Yang  
Radiocarbon Dating Laboratory  
Atomic Energy Research Institute  
Seoul, Korea

### ALG ALGIERS

Mr. F. Armanet  
Applications Nucléaires  
Institut d'Etudes Nucléaires  
Bd. Frantz Fanon  
B.P. 1147  
Algiers, Algeria

### ANL ARGONNE NATIONAL LABORATORY

Dr. F. T. Hageman  
Argonne National Laboratory  
9700 South Cass Avenue  
Argonne, Illinois 60439

### ANU AUSTRALIAN NATIONAL UNIVERSITY

Mr. H. A. Polach  
Radiocarbon Dating Laboratory  
Department of Geophysics and Geochemistry  
Australian National University  
Canberra A.C.T., Australia 2600

- B**      **BERN**  
           Prof. H. Oeschger  
           Physikalisches Institut  
           Universität Bern  
           Sidlerstrasse 5  
           Bern, Switzerland
- Birm**    **BIRMINGHAM**  
           Prof. F. W. Shotton, F.R.S.  
           Department of Geology, P.O. Box 363  
           University of Birmingham  
           Birmingham 15, England
- Blu**      **BERLIN**  
           Ing. Günther Kohl  
           Deutsche Akademie der Wissenschaften zu Berlin  
           Institut für Ur-und Frühgeschichte  
           1199 Berlin, Rudower Chaussee 6  
           Germany
- BM**      **BRITISH MUSEUM**  
           Mr. Harold Barker and Mr. Richard Burleigh  
           Research Laboratory  
           The British Museum  
           London, W.C.1, England
- BONN**   **BONN**  
           Dr. H. W. Scharpenseel and F. Pietig  
           Institut für Bodenkunde  
           Universität Bonn  
           Bonn, Germany
- \*C**      **CHICAGO**  
           Dr. W. F. Libby  
           Institute of Geophysics  
           University of California  
           Los Angeles, California 90024
- \*CT**     **CALTECH**  
           Dr. Don M. Yost  
           Gates and Crellin Laboratories of Chemistry  
           California Institute of Technology  
           Pasadena, California 91109
- \*D**      **DUBLIN**  
           Dr. William A. Watts  
           Department of Botany  
           Trinity College  
           Dublin, Ireland
- Dak**     **DAKAR**  
           Dr. Cheikh Anta Diop  
           Directeur du Laboratoire de  
           Radiocarbonate I.F.A.N.  
           Université de Dakar  
           République du Sénégal
- Fr<sup>1</sup>**     **FREIBERG**  
           Hajo Stechemesser  
           Sektion Physik  
           Experimentalphysik II  
           Bergakademie Freiberg  
           DDR 92 Freiberg
- FSU**     **FLORIDA STATE**  
           James R. Martin, H. G. Goodell, and D. S. Phelps  
           Radiocarbon Dating Laboratory  
           Department of Geology  
           Florida State University  
           Tallahassee, Florida 32306

- \*G**      **GÖTEBORG**  
             Dr. E. Ehn  
             Laboratory of Nuclear Chemistry  
             Chalmers Tekniska Högskola  
             Göteborg, Sweden
- GaK**      **GAKUSHUIN UNIVERSITY**  
             Prof. K. Kigoshi  
             Gakushuin University  
             Mejiro, Toshima-ku  
             Tokyo, Japan
- Gd<sup>1a</sup>**      **GDANSK**  
             Prof. W. Mościcki, Gliwice  
             Politechnika Śląska  
             Katedra Fizyki  
             Zakład Fizyki Technicznej  
             C-14 Laboratory  
             Poland
- Gif<sup>2</sup>**      **GIF-SUR-YVETTE**  
             Dr. J. Labeyrie or Mme. G. Delibrias  
             Centre des Faibles Radioactivités  
             Centre National de la Recherche Scientifique  
             91-Gif-sur-Yvette, France
- \*GL**      **GEOCHRONOLOGICAL LABORATORY**  
             Institute of Archaeology  
             31-34 Gordon Square  
             London, W.C.1, England
- Gro<sup>3</sup>**      **GRONINGEN**  
**GrN**      Dr. W. G. Mook and Dr. J. C. Vogel  
             Natuurkundig Laboratorium der Rijks Universiteit  
             Westersingel 34  
             Groningen, Netherlands
- GSC**      **OTTAWA**  
             Mr. J. A. Lowdon  
             Radiocarbon Dating Laboratory  
             Geological Survey of Canada  
             601 Booth Street  
             Ottawa, Ontario, Canada
- \*Gsy<sup>2</sup>**      **GIF-SUR-YVETTE**
- GU**      **GLASGOW UNIVERSITY**  
             Dr. A. Walton  
             Department of Chemistry  
             The University  
             Glasgow W.2, Scotland
- GX**      **GEOCHRON LABORATORIES INC.**  
             Mr. Harold W. Krueger  
             Geochron Laboratories Inc.  
             24 Blackstone Street  
             Cambridge, Mass. 02139
- H**      **HEIDELBERG**  
             Mr. D. Berdau and Dr. K. O. Münnich  
             C-14 Laboratorium  
             II Physikalisches Institut der Universität  
             Heidelberg, Philosophenweg 12  
             West Germany

- Hv**      **HANNOVER**  
             Dr. M. A. Geyh  
             Niedersächsisches Landesamt  
             für Bodenforschung  
             Hannover-Buchholz, Alfred-Bentz-Haus  
             West Germany
- I<sup>a</sup>**      **ISOTOPES — A TELEDYNE COMPANY**  
             Dr. Eric H. Willis  
             Isotopes — A Teledyne Company  
             50 Van Buren Avenue  
             Westwood, New Jersey 07675
- II<sup>s</sup>**      **ISOTOPES, A TELEDYNE COMPANY**  
             Palo Alto Laboratories  
             Joel J. Sigalove  
             Isotopes, A Teledyne Company  
             4062 Fabian Street  
             Palo Alto, California 94303
- IRPA**    **INSTITUT ROYAL DU PATRIMOINE ARTISTIQUE**  
             M. Dauchot-Dehon and J. Heylen  
             Institut Royal du Patrimoine Artistique  
             1 Parc du Cinquantenaire  
             Brussels 4, Belgium
- ISGS**    **ILLINOIS STATE GEOLOGICAL SURVEY**  
             Dennis D. Coleman  
             Section of Analytical Chemistry  
             Illinois State Geological Survey  
             Natural Resources Building  
             Urbana, Illinois 61801
- IVIC**    **CARACAS**  
             Dr. M. A. Tamers  
             Instituto Venezolano de Investigaciones Científicas  
             Departamento de Química  
             Apartado 1827  
             Caracas, Venezuela
- K**        **COPENHAGEN**  
             Dr. Henrik Tauber  
             Department of Natural Sciences  
             National Museum  
             Copenhagen K, Denmark
- KI**      **KIEL**  
             Dr. H. Willkomm and Mr. H. Erlenkeuser  
             Institut für Reine und Angewandte Kernphysik  
             Universität Kiel  
             23 Kiel,  
             Olshausenstrasse 40-60  
             Germany
- KN**      **KÖLN**  
             Dr. J. C. Freundlich  
             Universität Köln, Institut für Ur-und Frühgeschichte  
             C<sup>14</sup>-Laboratorium  
             Köln-Lindenthal, Weyertal 125, W. Germany
- L**        **LAMONT**  
             Dr. D. L. Thurber  
             Lamont Geological Observatory  
             Columbia University  
             Palisades, New York 10964
- LAR**    **LIEGE STATE UNIVERSITY**  
             Prof. Dr. Jean Govaerts  
             Lab. d'application des radioéléments  
             9 Place du XX Aout  
             Liège, Belgium

- LE      Leningrad  
Radiocarbon Laboratory  
Institute of Archaeology  
Dvortsovaya Nab. 18  
Leningrad D. 41, USSR
- LJ      UNIVERSITY OF CALIFORNIA, SAN DIEGO  
Dr. H. E. Suess  
Scripps Institution of Oceanography  
University of California, San Diego  
La Jolla, California 92037
- LP      LA PLATA  
Museo de La Plata  
Paseo del Bosque  
La Plata, Argentina
- Lu      LUND  
Dr. Tage Nilsson and Mr. Sören Håkansson  
Radiocarbon Dating Laboratory  
University of Lund  
Tunavägen 29  
S-22363 Lund, Sweden
- Lv      HÉVERLÉ LOUVAIN  
Prof. P. C. Capron and Mr. E. Gilot  
Centre de Physique Nucléaire  
Avenue Cardinal Mercier  
Héverlé Louvain, Belgium
- Ly      UNIVERSITY OF LYON  
Mr. J. Evin  
Laboratoire de Radiocarbone  
Institut de Physique Nucléaire  
43, Boulevard du 11 Novembre 1918  
69, Villeurbanne-Lyon, France
- M      MICHIGAN  
Dr. James B. Griffin  
University Museums Building  
The University of Michigan  
Ann Arbor, Michigan 48104
- \*Ma<sup>a</sup>      MANITOBA
- MC      MONACO  
Dr. J. Thommeret or Dr. J. L. Rapaire  
Laboratoire de Radioactivité Appliquée  
Centre Scientifique de Monaco  
Avenue Saint Martin  
Monaco
- ML      MIAMI  
Dr. H. G. Östlund  
Institute of Marine and Atmospheric Sciences  
University of Miami  
Miami, Florida 33149
- Mo      VERNADSKI INSTITUTE OF GEOCHEMISTRY  
Vernadski Institute of Geochemistry  
Academy of Sciences of the USSR  
Moscow, USSR  
Address: Academician A. P. Vinogradov  
Vorobevskoye shosse, d.47-A  
Moscow, USSR

- MP<sup>r</sup>**     **MAGNOLIA PETROLEUM**
- N**         **RIKEN (TOKYO)**  
               Dr. F. Yamasaki  
               The Institute of Physical and Chemical Research  
               Yamato-machi, Kitaadachi-gun, Saitama Pref.  
               Japan
- NPL**       **NATIONAL PHYSICAL LABORATORY**  
               Mr. W. J. Callow and Miss G. I. Hassall  
               Division of Radiation Science  
               National Physical Laboratory  
               Teddington, Middlesex, England
- NSW**       **NEW SOUTH WALES**  
               Dr. D. J. Carswell  
               Department of Nuclear and Radiation Chemistry  
               University of New South Wales  
               P.O. Box 1  
               Kensington, New South Wales, 2033, Australia
- NTU**       **NATIONAL TAIWAN UNIVERSITY**  
               Yuin-Chi Hsu  
               Department of Physics  
               National Taiwan University  
               Taipei, Taiwan, China
- Ny**         **NANCY**  
               Pr. Marcel Roubault et Pr. René Coppens  
               Centre de Recherches Radiogéologiques  
               Université de Nancy  
               B.P. 452  
               Nancy 54, France
- NZ**         **NEW ZEALAND**  
               Dr. T. A. Rafter  
               Institute of Nuclear Sciences  
               Lower Hutt, New Zealand D.S.I.R.
- O**           **HUMBLE**  
               Dr. H. R. Brannon  
               Esso Production Research Company  
               Affiliate of Humble Oil & Refining Co.  
               P.O. Box 2189  
               Houston, Texas 77001
- ORINS**     **OAK RIDGE ASSOCIATED UNIVERSITIES**  
               Dr. John E. Noakes, Director  
               Radiocarbon Dating Laboratory  
               Oak Ridge, Tennessee 37830
- OWU**       **OHIO WESLEYAN UNIVERSITY**  
               Dr. J. Gordon Ogden, III  
               Department of Botany and Bacteriology  
               Ohio Wesleyan University  
               Delaware, Ohio 43015
- OX**         **U.S. DEPARTMENT OF AGRICULTURE**  
               L. L. McDowell  
               Agricultural Research Service  
               Soil and Water Conservation Research Division  
               Sedimentation Laboratory  
               P.O. Box 30  
               Oxford, Mississippi 38655

- P**      **PENNSYLVANIA**  
Miss Elizabeth K. Ralph and Mrs. Stuart Lawn  
Department of Physics  
University of Pennsylvania  
Philadelphia, Pennsylvania 19104
- Pi**      **PISA**  
Prof. E. Tongiorgi  
Laboratorio di Geologia Nucleare dell'Università  
Via S. Maria, 22  
Pisa, Italy
- \*PIC**      **PACKARD**  
Dr. Ariel G. Schrodt  
Low Level Counting Laboratory  
Packard Instrument Co., Inc.  
2200 Warrenville Road  
Downers Grove, Illinois 60515
- Pr**      **PRAGUE**  
Alois Dubanský  
Laboratory for Isotopes  
Geochemistry and Geochronology  
Geological Institute  
Czechoslovak Academy of Sciences  
Prague-8  
Na Hrazi 26
- Pta**      **PRETORIA**  
Dr. J. C. Vogel  
Natural Isotopes Division  
National Physics Research Laboratory  
P.O. Box 395  
Pretoria, South Africa
- Q**      **CAMBRIDGE**  
Dr. R. G. West or Dr. V. R. Switsur  
University Sub-Department of Quaternary Research  
Botany School  
Downing Street  
Cambridge, England
- R**      **ROME**  
Dr. F. Bella, Istituto di Fisica  
and  
Dr. C. Cortesi, Istituto di Geochimica  
Radiocarbon Dating Laboratory  
University of Rome  
Citta Universitaria  
00100-Rome, Italy
- RI**      **RADIOCHEMISTRY, INC.**  
F. M. Sweets  
Radiochemistry, Inc., Subsidiary of  
The Martin Sweets Co., Inc.  
3131 West Market Street  
Louisville, Kentucky 40212
- S**      **SASKATCHEWAN**  
Dr. K. J. McCallum  
Department of Chemistry  
University of Saskatchewan  
Saskatoon, Saskatchewan, Canada
- \*Sa\***      **SACLAY**

- SI SMITHSONIAN INSTITUTION  
Dr. W. H. Klein, Director  
Radiation Biology Laboratory  
Robert Stuckenrath, Jr.  
C<sup>14</sup> Laboratory  
12441 Parklawn Drive  
Rockville, Maryland 20852
- \*SL SHARP LABORATORIES
- SM<sup>o</sup> MOBIL OIL CORPORATION  
Dr. H. F. Nelson  
Mobil Oil Research and Development Corp.  
Field Research Laboratory  
P.O. Box 900  
Dallas, Texas 75221
- SR SALISBURY, RHODESIA  
Dr. E. R. Swart or Dr. J. G. Sheppard  
Gulbenkian Radiocarbon Dating Laboratory  
Department of Chemistry  
University of Rhodesia  
P. Bag 167H  
Salisbury, Rhodesia
- St STOCKHOLM  
Dr. Eric Welin and Mr. Lars Engstrand  
Radioactive Dating Laboratory  
104 05 Stockholm 50, Sweden
- Su FINLAND  
Aulis Heikkinen, Lic. Phil.  
Geological Survey of Finland  
Otaniemi, Finland
- T TRONDHEIM  
Mr. Reidar Nydal and Mr. Knut Lövsæth  
Radiological Dating Laboratory  
The Norwegian Institute of Technology  
Trondheim, Norway
- TA TARTU  
H. Simm or A. Liiva  
Geobiochemistry Laboratory  
Institute of Zoology and Botany Academy of Sciences of the Estonian SSR  
Vanemuise St. 21  
Tartu, Estonia, USSR
- TAM TEXAS A & M UNIVERSITY  
Dr. William M. Sackett  
Dept. of Oceanography  
Texas A & M University  
College Station, Texas 77843
- TB TBILISI  
A. A. Burchuladze  
Radiocarbon Laboratory  
Tbilisi University  
1 Chavchavadze Avenue  
Tbilisi, USSR
- \*TBNC<sup>10</sup> KAMAN NUCLEAR  
Kaman Nuclear  
Garden of the Gods Road  
Colorado Springs, Colorado

- TF**      **TATA INSTITUTE OF FUNDAMENTAL RESEARCH**  
Dr. D. Lal  
Tata Institute of Fundamental Research  
Homi Bhabha Road  
Bombay-5 BR., India
- TK**      **UNIVERSITY OF TOKYO**  
Dr. Hisashi Suzuki  
Carbon Dating Laboratory  
c/o Department of Anthropology  
Faculty of Science  
University of Tokyo  
Hongo, Bunkyo-ku, Tokyo, Japan
- Tx**      **TEXAS**  
Mr. S. Valastro, Jr. or Dr. E. Mott Davis  
Radiocarbon Laboratory  
Balcones Research Center, Rt. 4, Box 189  
University of Texas at Austin  
Austin, Texas 78757
- U**      **UPPSALA**  
Dr. Ingrid U. Olsson  
Institute of Physics  
University of Uppsala  
Box 530  
S-751 21 Uppsala, Sweden
- UB**      **BELFAST**  
Dr. A. G. Smith or Mr. G. Pearson  
Palaeocology Laboratory  
The Queen's University  
Belfast, BT7 1NN  
Northern Ireland
- UCLA**    **UNIVERSITY OF CALIFORNIA, LOS ANGELES**  
Dr. Rainer Berger and Dr. W. F. Libby  
Institute of Geophysics  
University of California  
Los Angeles, California 90024
- UW**      **UNIVERSITY OF WASHINGTON**  
Dr. A. W. Fairhall  
Department of Chemistry  
University of Washington  
Seattle, Washington 98105
- V**      **VICTORIA**  
Anne Bermingham  
Radiocarbon Dating Laboratory  
Institute of Applied Science of Victoria  
304-328 Swanston Street  
Melbourne, Victoria  
Australia 3000
- VRI**      **VIENNA RADIUM INSTITUTE**  
Dr. H. Felber  
Institut für Radiumforschung und Kernphysik  
Boltzmannngasse 3  
A-1090 Vienna, Austria
- W**      **U.S. GEOLOGICAL SURVEY**  
Dr. Meyer Rubin  
U.S. Geological Survey  
Washington, D.C. 20242

- WIS**      **WISCONSIN**  
Dr. Margaret Bender  
Radiocarbon Laboratory of the Center for Climatic Research  
Department of Meteorology  
University of Wisconsin  
Madison, Wisconsin 53706
- WSU**      **WASHINGTON STATE UNIVERSITY**  
Dr. Roy M. Chatters  
Radioisotopes and Radiations Laboratory  
College of Engineering Research Division  
Pullman, Washington 99163
- X**          **WHITWORTH COLLEGE**  
Dr. Edwin A. Olson  
Department of Geology  
Whitworth College  
Spokane, Washington 99218
- \*Y**        **YALE**  
Dr. Minze Stuiver  
Radiocarbon Laboratory  
Yale University  
New Haven, Connecticut 06520
- Z**          **ZAGREB**  
Dr. Adela Sliepcevic and Dr. Dušan Srdoc  
Institute "Ruder Boškovic"  
Bijenicka 54  
Zagreb, Yugoslavia